

ART. XIII.—*Observations on Muridae from Central Australia.*

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(Communicated by Professor BALDWIN SPENCER, M.A.)

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(Plates V. and VI.)

Since the publication of the *Muridae* of the Horn Expedition¹ Prof. Baldwin Spencer of Melbourne has obtained from Messrs. P. M. Byrne, F. J. Gillen, and C. E. Cowle a number of additional specimens from Central Australia. As on the former occasion these have been submitted to me for examination, and prove to be of considerable interest.

The collection does not contain any species new to science, but has furnished material whereon I have found it necessary to establish two new genera. One of these, it is believed, will include the typical jumping forms, the other is to receive a known species possessing a peculiarity previously overlooked. This is the presence of an external throat pouch, particulars of which are discussed later.

It has been necessary to redesignate one species, on account of the preoccupation of the name in general use. In this case, as well as in most of the species enumerated, the opportunity has been embraced of describing the cranial and other neglected features. The specimens are preserved in spirits and the measurements, in millimetres, are taken with a vernier scale, which, especially in the cranial dimensions, gives an accuracy scarcely obtainable with the rule and compass.

An examination of *Hapalotis longicaudatus* reveals the fact that the hind feet differ greatly from those of the typical *Mus*, not only in their relative increased length, but also in the number

¹ Report Horn Exped., 1896, ii., pp. 393., *et seq.*

and arrangement of the foot pads. Hitherto this species has been included in *Conilurus*, Ogil., of which the type is *C. conditor*, but a reference to the type species shows that it has not the peculiarity here sought to be emphasised; it would therefore appear that there is no alternative but to create a new genus for the species in question. How many more of the species now ranked under *Conilurus* will be required to follow *C. longicaudatus* into the new genus, is not yet decided, but *C. apicalis* and *C. pedunculatus* will certainly not do so.

Conilurus apicalis. Fig. 1.

Hapalotis apicalis. Gould, Proc. Zool. Soc., 1851, p. 126.

Mamm. Aust., III., pl. 2.

Spencer, Report Horn Exped., II., p. 11.

Gould's figure is an excellent representation of this animal and there is little to add to the color-description; the brown on the tail is confined to the basal half of the upper surface, and the hairs towards the tip are considerably lengthened, forming a pencil of white. Gould described the tail as being thinly clothed, but it is probable that the tail of his single example had been somewhat denuded of hair. The mark on the fore feet mentioned and illustrated is exhibited by our specimen, the hind feet also show a dark mark. The fur of the under parts is white at the base, that of the coloured portions dark grey. The hind limbs are not specially lengthened, and I would therefore consider that the method of progression was rat- and not jerboa-like.

Tail-scales average nine to the centimetre. Mammæ, $0.2 = 4$.

Skull somewhat elongate without marked ridges, preorbital processes large; anterior palatina foramina wide, front edge of anterior zygoma root quite straight and perpendicular, upper angle gently rounded; coronoid feebly developed and the incisor capsule very low, scarcely raised in fact.

This incisor capsule necessarily absent in so many types, yet forming such a conspicuous feature in the mandible of *Myomorphice* and other Rodents, is subject to considerable variation, but whether it is a character worthy of special note I cannot yet say: the descriptive term is adopted from Merriam's¹ Pocket Gophers.

¹ Merriam. Monograph of Geomyiidae, 1895, fig. 49. *ic.*

Its small size in the present species leads me to direct attention more particularly to it. Covering the root of the long and curved incisor, it is to be found on the outer side of the mandible approaching the sigmoid notch. It may be very prominent and reach quite to the notch as in *P. longicaudatus* (see I.c. fig. 2.a.) or so low as to scarcely protrude above the general level as in *C. apicalis* (fig. I.a.).

Teeth. Incisors rather slight, molars of dark horn color of ordinary type, but attention may be drawn to the pattern assumed by the wearing down of the third molar.

DIMENSIONS.

Head and body	-	-	-	-	169·0
Tail	-	-	-	-	236·0
Length of head	-	-	-	-	48·4
Muzzle to ear	-	-	-	-	38·5
Ear	-	-	-	-	31·0
Forearm and hand	-	-	-	-	44·0
Hind foot	-	-	-	-	40·8
Heel to front of last foot pad	-	-	-	-	21·4
Last foot pad	-	-	-	-	5·0

SKULL.

Greatest length	-	-	-	-	41·4
Basal length	-	-	-	-	35·3
Greatest breadth	-	-	-	-	20·7
Nasals, length	-	-	-	-	14·6
Nasals, greatest breadth	-	-	-	-	4·7
Interorbital breadth	-	-	-	-	5·2
Interparietal length	-	-	-	-	5·6
Interparietal breadth	-	-	-	-	8·8
Brain-case, breadth	-	-	-	-	16·9
Anterior zygoma root	-	-	-	-	4·8
Diastema	-	-	-	-	10·6
Palate, length	-	-	-	-	21·4
Anterior palatina foramina	-	-	-	-	7·5
Upper molars, length	-	-	-	-	7·4
Lower molars, length	-	-	-	-	7·7
Condyle to incisor tip	-	-	-	-	27·3
Coronoid tip to angle	-	-	-	-	11·5

Habitat. Alice Springs, Central Australia.

Conilurus pedunculatus.

Waite. Report Horn Exped., 1896, II., p. 395, pl. 25, fig. 1.

The collection includes several examples of this peculiar species, not differing from the typical ones previously described. A greater proportion, have however, the tail perfect; a certain number have, as before, suffered fracture, and in one case union had taken place with the fractured portion twisted out of its proper direction.

A fair series has previously been measured and the information thus obtained need not be augmented, but it may be advisable to compare the dimensions of the head and body with those of the tail, for the imperfect condition of the majority previously received precluded the possibility of an adequate comparison.

DIMENSIONS.

				♂	♂	♂	♀
Head and body	-	-	-	118	117	115	92
Tail	-	-	-	121	120	122	97

These specimens are from Alice Springs, Central Australia, whence also the types were obtained.

PODANOMALUS, gen. nov.

General characters, murine. Hind limbs lengthened, the hind foot long, with a diminished number of pads, some of which may be very small.

Podanomalus longicaudatus. Fig. 2.

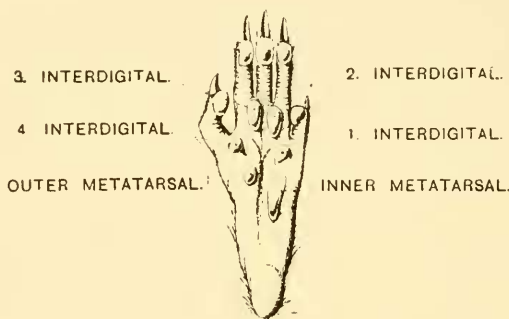
Hapalotis longicaudatus. Gould, P. Z. S., 1844, p. 104.

Hapalotis mitchelli, Spencer (as of Ogilby). Report Horn Exped. II., p. 10.

Mamm. Aust., iii., pl. 8.

This species is represented by several examples which agree in all important particulars with the description and figure as rendered by Gould. The white hairs of the tail, when present, appear to be developed chiefly on the lower surface, and in none of the specimens collected are they so numerous as to produce the white tip mentioned by this writer.

The hind feet, which present the greatest peculiarity of the animal, are remarkable for their length and for the small number of the pads. In order to fully appreciate the peculiarity, the feet of *Mus decumanus* may be first examined. This species is much more suitable for a type than *Mus rattus*, (sometimes adopted), because it is everywhere procurable, whereas the latter species is not only troublesome to obtain, but its identification may present subject for controversy.



Right hind foot of Brown Rat (*Mus decumanus*), showing number and position of foot pads. (Natural size).

The sole of the foot of the Brown Rat is furnished with six pads, one at the base of each interdigital fissure, (the first, second, third and fourth interdigitals), the fifth, posterior to the pad at the base of the outer digit (outer metatarsal), and the sixth on the inner side, nearest to the heel (inner metatarsal). This last pad is narrow and long, but in some species it is quite small and roundish, and as it is a valuable factor, its relative size and distance from the heel is made use of for descriptive purposes.

Turning now to the foot of *Podanomalous longicaudatus* (fig. 2.e.) it will be observed that of the usual six pads, two or more are absent. The metatarsals are quite obsolete, and it is only in certain examples that the first interdigital may be traced.

A comparative study of the pads, the toes, and of the greatly lengthened limb, shows very conclusively that the rat progresses

by leaps like a kangaroo or jerboa ; while similar comparisons in the case of *Conilurus* equally convince me that these advanced in the more usual manner.

In addition to the peculiarities already mentioned, the foot is very narrow, and the first and fifth digits are set back, so that instead of the first digit reaching almost to the front of the anterior pads, and the fifth far beyond them, as in *Mus decumanus* they altogether fail to approach them or barely reach their posterior edge respectively.

The various characters here sketched suggest a tempting field of speculation on the evolution of the foot, which however will be here, merely indicated. The practice of jumping, necessarily throws the area of contact with the ground very far forward ; the first and fifth digit are unnecessary for such progression, as abundantly proved by the consideration of other forms, such as *Alactaga*, *Euchoretes* and *Platysercomys*. These digits become reduced to mere vestiges, indicating a former function and finally disappear as in *Dipus*. That such a condition is taking place in *Podanomalus* is suggested by the recedence and shortening of these digits, and more especially by the absence of their pads, which, being tegumentary structures, would naturally become lost long before the bones themselves suffered material diminution.

The phraseology used is strictly conventional ; the same appearance would be produced by the advance of the median digits as by the retreat of the external ones. It is extremely probable that both factors are operative in bringing about the result.

Tail-scales average twelve to the centimetre. Mammæ, $0\cdot2 = 4$. Palate ridges, three predental and six interdental.

Skull. Stout, smooth, facial portion rather produced, preorbital processes well developed : bullæ large, the portion above the meatus projects considerably and can be seen when viewed from above : front edge of anterior zygoma root evenly concave, the upper portion projects and forms a sharp angle. The interparietal is very narrow, being only half the width of the brain-case : coronoid low, not projecting above a line drawn from the tip of the incisor to the top of the condyle ; the angle is deflected outwards and deeply excavated to receive the masseter : foramen magnum much higher than wide.

Teeth. All the teeth with the exception of the last lamina of the third molar are visible when viewed from the outer surface in profile. In all the *Mus* I remember to have examined, the third molar, and frequently a large portion of the second, is hidden by the front edge of the ascending ramus.

The molar ridges appear to be rather simple, the outer tubercle is ill developed while the inner one of M^1 is bent backwards and set somewhat behind the lamina, its longer axis is antero-posterior. The teeth of the specimens examined are abraded so that the condition cannot be wholly ascertained.

There is some difference in the size of the adult specimens measured, but the general color, form, and cranial characters do not present features of specific import.

In reference to the following scale of dimensions, attention is drawn to the fact that the measurement "Heel to front of fourth foot pad" is not comparable with "Heel to front of last foot pad" (the inner metatarsal) as rendered in all species excepting this and the one next described. It may be further explained that the word "fourth" refers to the position rather than to the number, for examples may be examined which have three pads only, the first interdigital being absent: a reference to the diagram on page 118 will render the description easier to follow.

Also, in cases, as in the present species, where the pad measured is very small, the size of that of one individual alone has been given, for no benefit could accrue from elaborating such an approximate dimension as this one must necessarily be.

DIMENSIONS.

	A♂	B♂	C♂	D♀	E♀
Head and body - -	131.0	125.2	118.0	124.0	119.0
Tail - - - -	192.0	187.0	157.0	192.0	156.0
Length of head - -	43.0	42.3	41.4	40.8	37.4
Muzzle to ear - -	36.4	36.1	35.6	35.0	31.6
Ear - - - -	26.4	24.5	26.8	24.0	21.9
Forearm and hand -	34.2	34.3	34.0	34.1	32.7
Knee to heel - -	56.8	53.5	54.2	52.0	46.8
Hind foot - - -	44.1	42.9	43.0	42.0	42.0
Heel to front of } fourth foot pad }	26.2	24.4	24.0	24.3	24.4
Fourth foot pad - -	1.3	...	...	...	...

SKULL.					C♂	E♀
Greatest length	-	-	-	-	39.9	35.2
Basal length	-	-	-	-	33.2	28.3
Greatest breadth	-	-	-	-	21.8	19.0
Nasals, length	-	-	-	-	14.9	13.2
Nasals, greatest breadth	-	-	-	-	4.5	3.5
Interorbital breadth	-	-	-	-	6.3	6.4
Interparietal length	-	-	-	-	4.6	4.6
Interparietal breadth	-	-	-	-	9.2	9.4
Brain-case, breadth	-	-	-	-	18.1	18.0
Anterior zygoma root	-	-	-	-	5.0	3.6
Diastema	-	-	-	-	10.4	8.6
Palate length	-	-	-	-	20.6	17.3
Anterior palatina foramina	-	-	-	-	8.2	6.4
Upper molars, length	-	-	-	-	6.8	6.3
Lower molars, length	-	-	-	-	6.4	6.4
Condyle to incisor tip	-	-	-	-	26.0	22.3
Coronoid tip to angle	-	-	-	-	10.5	8.8

Habitat. Urwaitcha burrows, Burt Plains, north of Alice Springs, Central Australia.

Obs. Professor Spencer, in his report of the Mammalia of the Horn Expedition, recorded three rodents from Central Australia, of which two, *Hapalotis apicalis* and *H. cervinus*, are identified with species herein determined. As it seemed probable that his third species, *H. mitchelli*, might be identical with the one above considered I forwarded specimens for his opinion. My friend kindly wrote as follows:—"Undoubtedly what I called, after long doubt, *H. mitchelli* is your *P. longicaudatus*." The former species is, therefore, not to be included in the fauna of Central Australia, and the remarks printed on page 10 of the report, together with the native name of Ulabaiya are applicable to the latter species only.

THYLACOMYS, gen. nov.

General characters, murine, differs from *Pedanomalus* mainly by the development of an external pouch on the lower part of the throat.

Thylacomys cervinus. Fig. 3.

Hapalotis cervinus. Gould, Proc. Zool. Soc., 1851. p. 127.

Mamm. Aust., III., pl. 10.

Spencer, Report Horn Exped., II., p. 11.

To the coloration of typical examples as rendered by Gould, there is little to add. The fur of the under surface is white throughout, that of the upper parts is grey at the base. The tail at the proximal half is scantily clothed; the distal portion is pencilled as shown in the figure,—a feature not referred to in the text.

Tail scales average fifteen to the centimetre. Mammæ, $0.2 = 4$.

A darker form was considered to be a second species of the genus until a comparative examination of the skulls showed it to be specifically identical. The fawn colored portions are replaced by a much deeper tint and the fur of the under parts is grey at the base. This variety is perhaps the one referred to by Gould as "sometimes met with," but his figure (in the background) does not represent our specimens very accurately. In color it resembles *C. mitchelli*, but may be readily distinguished by its smaller size and peculiar long ears, so characteristic of the species. With regard to *C. mitchelli*, I have not specimens available for examination but suspect that its features will ally it with *Podanomalus* rather than with *Conilurus*.

The Pouch, the peculiarity of the genus, is situated on the lower part of the throat somewhat in advance of the fore limbs. It is a rather shallow depression lined with fine hair, the lower border is thickened and of ~ shape. At present the object of the pouch can only be conjectured, but it is to be hoped that when its presence has been made known to the gentlemen who are so successfully collecting the specimens in Central Australia, special observations may be made. It can be confidently assumed that the pouch is in no way analagous to that of a Marsupial, and one may suggest that it is used, as in the *Geomysidæ*, for storing food. These little animals may have some distance to travel in the desert for their dinners and possibly carry their suppers home with them. In the contracted state as observed in preserved specimens the pouch seems somewhat small for the purpose, but in the living animal it may be capable of considerable distension.

Apart from their smaller size the hind feet are very similar to those of *P. longicaudatus* already described: the main difference is in the longer fifth toe, which reaches to about the centre of the anterior pad.

Skull. Smooth, without ridges, frontal portion slight and straight above in profile: the zygomatic arches are bent inwards in the centre, producing the appearance shown in the figure: the anterior zygoma root is projected forward above, leaving the front edge deeply concave: coronoid weak.

Teeth. In the molar series the inner tubercles are behind the general level of the lamina and the longer axis is agreeable with that of the tooth, in both respects resembling *Podanomalus longicaudatus*.

Habitat. Charlotte Waters and Alice Springs, Central Australia.

DIMENSIONS.

	Typical Race.			Dark Race.		
	A♂	B♀	C♀	D♂	E♂	F♀
Head and body	100.0	107.0	97.0	94.9	91.0	109.4
Tail - - -	127.8	129.5	116.0	128.3	118.0	137.7
Length of head	33.7	34.3	30.8	33.5	32.3	33.4
Muzzle to ear -	27.7	28.5	24.7	28.2	25.9	27.6
Ear - - -	25.3	24.4	21.8	26.5	21.6	22.7
Forearm and hand	24.6	25.2	24.2	24.7	25.9	25.8
Knee to heel -	40.7	40.9	37.4	44.1	36.5	38.4
Hind foot -	33.3	32.8	31.9	35.8	31.8	32.3
Heel to front of fourth foot pad -	...	...	18.7	...	17.9	...

SKULL.

	Typical Race.		Dark Race.	
	A♂	C♀	D♂	E♂
Greatest length - -	30.5	29.1	30.7	29.6
Basal length - - -	24.8	23.7	25.5	24.2
Greatest breadth - -	15.1	15.2	16.0	16.0
Nasals, length - - -	9.6	9.4	10.4	10.3
Nasals, greatest breadth -	2.7	2.7	2.9	2.8

				Typical Race.		Dark Race.	
				A ♂	C ♀	D ♂	E ♂
Interorbital breadth	-	-		5.7	5.4	5.5	5.3
Interparietal length	-	-		3.8	3.8	3.3	3.2
Interparietal breadth	-	-		8.3	8.4	6.9	7.0
Brain-case, breadth	-	-		14.6	14.5	14.8	14.6
Anterior zygoma root	-	-		3.0	2.8	3.0	3.1
Diastema	-	-	-	8.5	7.0	7.3	7.3
Palate, length	-	-	-	15.3	14.4	15.3	15.3
Anterior palatina foramina	-	-		4.6	4.9	4.6	5.0
Upper molars, length	-	-		5.0	5.0	4.8	4.9
Lower molars, length	-	-		4.7	5.2	4.9	4.7
Condyle to incisor tip	-	-		19.5	18.9	19.1	18.3
Coronoid tip to angle	-	-		8.1	7.6	7.4	7.3

Mus greyi.

Gray. Grey's Trav. Austr., App. II., p. 410.

Collett. Zool. Jahrb. II., 1886-7, p. 837.

Waite. Report Horn Exped., II., p. 401, pls. 25 and 26, fig. 3.

The members of the Horn Expedition secured three examples of this species, all males; an individual since obtained being a female, shows that the number and position of the mammae is 2.3=10, particulars of which were not previously known.

Locality. Tennant's Creek.

DIMENSIONS.

						♀
Head and body	-	-	-	-	-	129.0
Tail	-	-	-	-	-	131.0
Length of head	-	-	-	-	-	38.9
Muzzle to ear	-	-	-	-	-	30.6
Ear	-	-	-	-	-	16.7
Forearm and hand	-	-	-	-	-	33.6
Hind foot	-	-	-	-	-	26.0
Heel to front of last foot pad	-	-	-	-	-	13.8
Last foot pad	-	-	-	-	-	3.9

SKULL.

Greatest length	-	-	-	? 36·5
Basal length	-	-	-	? 31·0
Greatest breadth	-	-	-	20·8
Nasals, length	-	-	-	12·2
Nasals, greatest breadth	-	-	-	3·8
Interorbital breadth	-	-	-	5·0
Interparietal length	-	-	-	4·9
Interparietal breadth	-	-	-	9·7
Brain-case, breadth	-	-	-	? 16·0
Anterior zygoma root	-	-	-	4·6
Diastema	-	-	-	10·8
Palate, length	-	-	-	19·8
Anterior palatina foramina	-	-	-	6·9
Upper molars, length	-	-	-	7·1
Lower molars, length	-	-	-	7·0
Condyle to incisor tip	-	-	-	25·9
Coronoid tip to angle	-	-	-	13·0

Mus villosissimus, nom. nov.

Mus longipilis. Gould, Mamm. Aust., III., 1863, pl. 13.

Not Waterhouse, Proc. Zcol. Soc., 1837, p. 16.

It is gratifying to find that this rat has again been obtained; the type, preserved in the Australian Museum, is somewhat faded; advantage has therefore been taken of fresh examples, wherefrom to supplement the original description.

In consequence of the preoccupation of the original name as above indicated, it has been necessary to redesignate the species; and in selecting the name, *Mus villosissimus*, I have endeavoured to preserve the reference to the most striking feature presented by the species.

Fur, long, close, harsh, generally of a sandy color but apparently darker owing to the numerous black hairs which are mostly just tipped with white: the color at the base of the upper hairs is dark grey, that of the lower surface somewhat lighter. The feet are white haired, the tail is not so long as the head and body together, and the hairs are short, black and stiff: scales average ten to the centimetre. Mammæ, 2·3=10. Two examples have been received, one of each sex.

Skull. Very similar to that of *Mus decumanus* and an illustration of the one might almost do duty for the other, indeed, were it not for the striking external features one would almost feel inclined to regard the two as identical. The main cranial differences as shown by my specimens respectively are as follows:—In *M. villosissimus* the foramen magnum is \wedge shaped above and is deeper or as deep as wide; the profile of the skull exhibits a greater arch and the nasal portion is more bent down, the interorbital breadth is somewhat less and the anterior palatina foramina are very long and narrow, extending to nearly between the centres of the first molars.

Teeth. The molar series are set closer together than in *M. decumanus*, but as both the skulls of *M. villosissimus* are of aged examples the teeth are worn down and much of their character obliterated.

DIMENSIONS.

	A ♂	B ♀
Head and body - - - -	153.0	163.0
Tail - - - - -	144.0	147.5
Length of head - - - -	45.7	46.1
Muzzle to ear - - - -	33.4	36.0
Ear - - - - -	20.2	20.5
Forearm and hand - - -	42.8	38.9
Hind foot - - - - -	34.0	30.6
Heel to front of last foot pad -	16.6	15.0
Last foot pad - - - -	5.9	4.8

SKULL.

	A ♂	B ♀
Greatest length - - - -	42.5	41.1
Basal length - - - - -	37.8	37.5
Greatest breadth - - - -	...	20.0
Nasals, length - - - - -	15.9	15.0
Nasals, greatest breadth - -	4.0	4.2
Interorbital breadth - - -	5.7	5.2
Interparietal length - - -	4.5	4.8
Interparietal breadth - - -	10.4	10.6
Brain-case, breadth - - -	15.4	15.2
Anterior zygoma root - - -	5.1	4.8

	A ♂	B ♀
Diastema - - - - -	11·9	12·0
Palate, length - - - - -	22·9	22·3
Anterior palatina foramina - - -	8·4	8·5
Upper molars, length - - - - -	8·2	7·8
Lower molars, length - - - - -	7·9	6·9
Condyle to incisor tip - - - - -	...	27·8
Coronoid tip to angle - - - - -	14·8	14·2

Mus nanus. Fig. 4.

Gould. Proc. Zool. Soc., 1857, p. 242.

Mamm. Austr., III., pl. 20.

The following notes are drawn up from five specimens identified without difficulty. Gould's figure of this species is, I should say, unmistakeable, and but little can be added to the description of the external features. The fur is chestnut intermixed with black hairs, and the general character is very harsh. On the fore legs is a dark mark, mainly on the outer side, the ears are short, sparsely clothed with hairs: the tail is a little shorter than the head and body: the scales average fifteen to the centimetre. Mammæ, $0\cdot2=4$.

Skull. Arched, nasals bent downwards, converging to an acute angle behind: anterior zygoma root slightly emarginate; interparietal very wide, extending well across the brain-case. In the mandible the angle is conspicuously rounded.

Teeth. Upper incisors strongly curved: the molar series diverge in a marked manner.

DIMENSIONS.

	A ♂	B ♂	C ♀	D ♀
Head and body - - - - -	85·0	80·0	96·0	76·4
Tail - - - - -	82·0	90·0	94·5	86·0
Length of head - - - - -	29·9	28·7	30·2	27·5
Muzzle to ear - - - - -	25·0	24·1	24·5	22·7
Ear - - - - -	11·2	10·5	11·6	10·2
Forearm and hand - - - - -	23·7	23·6	24·8	21·9
Hind foot - - - - -	21·0	20·4	21·7	20·5
Heel to front of last foot pad -	10·4	10·1	10·4	9·3
Last foot pad - - - - -	1·9	...	...	...

SKULL.

	♀
Greatest length - - - -	26·2
Basal length - - - -	22·6
Greatest breadth - - - -	14·3
Nasals, length - - - -	9·3
Nasals, greatest breadth - - -	3·0
Interorbital breadth - - -	3·7
Interparietal length - - -	4·1
Interparietal breadth - - -	9·6
Brain-case, breadth - - -	12·8
Anterior zygoma root - - -	3·2
Diastema - - - -	6·5
Palate, length - - - -	14·0
Anterior palatina foramina - -	3·9
Upper molars, length - - -	5·2
Lower molars, length - - -	4·9
Condyle to incisor tip - - -	17·4
Coronoid tip to angle - - -	8·8

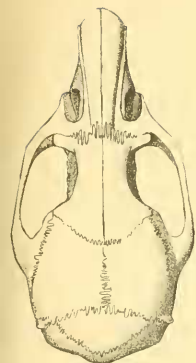
Habitat. Specimens marked A and B are from Porcupine Sandhills, Wycliffe Creek ; C from Barrow Creek ; and D from Untaünua, Porcupine Grass, Alice Springs, Central Australia.

Obs. Some immature specimens from Alice Springs I referred to the genus *Mastacomys*. Having since examined further material, including fossil teeth from the Wellington Caves, I now consider the Central Australian specimens to be very young examples of *Mus nanus*.

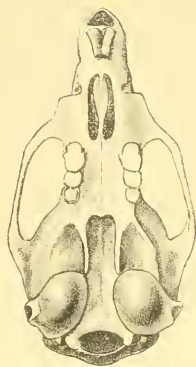
EXPLANATION OF PLATES.

- Fig. 1. *Conilurus apicalis*, Gould. Skull $\times 1\frac{1}{2}$.
 „ 2. *Podanomalus longicaudatus*, Gould. Skull $\times 1\frac{1}{2}$.
 „ 3. *Thylacomys cervinus*, Gould. Skull $\times 2$.
 „ 4. *Mus nanus*, Gould. Skull $\times 2$.

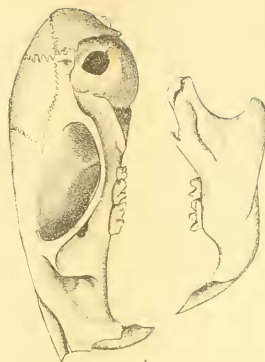
a, skull in profile ; *b*, ditto from above ; *c*, ditto from below ;
d, upper molars ; *e*, hind foot ; *f*, pouch.



1. b.



1. c.



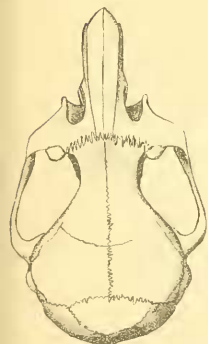
1. a.



1. d.



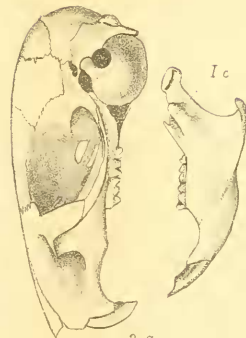
1. e.



2. b.



2. c.



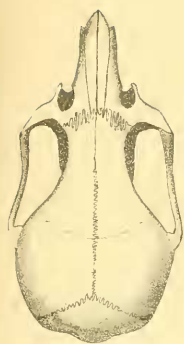
2. a.



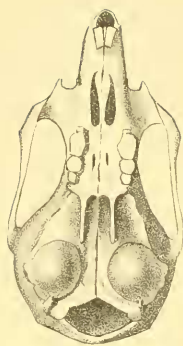
2. d.



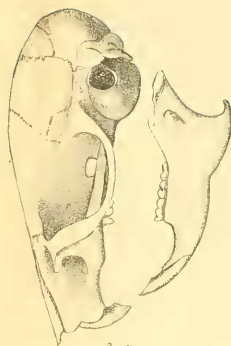
2. e.



3 b



3 c



3 a



3 f.



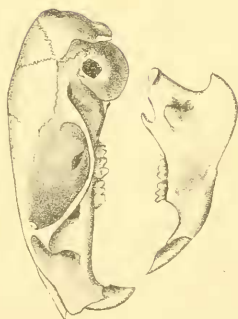
3 e



3 d



4 d



4 a



4 b.



4 c